

### Section 4.3: Inflection Points

Another type of point that we are interested in is called an **Inflection Point**. These are points on the graph where the function is increasing or decreasing the fastest.

To find inflection points, the thing we are interested in is the **Second Derivative** of a function. This is the derivative of the derivative.

*Example:* Find the second derivative of  $f(x)$   
 $f(x) = x^3 - 3x^2 + x + 1$

If we want to find the inflection point of  $f(x)$ , we need to find where  
 $f''(x) = 0$

*Example*

The percentage of students graduating from highschool who went to college in South Carolina between 1982 and 1990 is given by the following function, where  $x$  is the number of years since 1990.

Find the Inflection Point of the function.

When is the function increasing most rapidly?

When is the function decreasing most rapidly?